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OAK ISLAND AND ITS FLORA.

WM. P. RICH.

RISING out of the salt marsh, but a few hundred feet back from the beach, in the town of Revere, Massachusetts, is a little tract of woodland known as Oak Island. The Eastern Division of the Boston and Maine Railway passes through it, dividing it into two sections, the eastern and the western parts. The Island was, however, originally divided into two parts, between which was a low marshy space, but as the changes in topography that have been wrought in recent years, by the building of a road, race-course, hotel and other accretions to a summer resort, have somewhat obliterated the former lines of division, and as by far the richest flora is found in the grove beyond the railway, it is more convenient botanically to make the railway a dividing line between the two sections.

The eastern part as thus understood contains an area of about eleven acres and the ground is mostly higher and drier than in the western part, and by reason of its frequent use as an excursion resort, the ground covering, excepting around the edges has been pretty much destroyed. The western part comprising about ten acres is a damp open grove and in its rich, black soil grow such a number of interesting plants that for a period of seventy-five years it has been a well-known collecting ground for botanists.

Many similar marsh islands are found along the coasts of Massachusetts and New Hampshire, but in none of them exist such a variety and abundance of notable plants as at Oak Island. Very nearly four hundred species have been recorded growing naturally here. Should there be another tract of land in New England of twenty acres in extent which supports a flora equaling in number of species

that of Oak Island, RHODORA would be pleased to chronicle the fact. Surrounded on three sides by numerous cities and towns, from whose aggressions the intervening marshes have hitherto protected it, and a popular seaside resort close at hand, here the plants which once doubtless spread over a much larger area have been driven and are making a last stand against the encroachments of an ever increasing population and the destructive results to the native flora which necessarily attend it.

From May until October a constant succession of wild flowers fills the damp wood growing in such profusion at times as to produce conspicuous masses of color. One month the ground covering will be tinted with the pale yellow of the *Steironema ciliatum* and the *Gerardia quercifolia*. The next month the scene changes and the flaming yellow of two species of *Helianthus*, *strumosus* and *divaricatus*, will fill the grove with their splendid display, and again as one visits the place a month later, bluish-white masses of *Aster cordifolius* form the prevailing color, and tall plants of silvery *Eupatorium purpureum* and giant stalks of *Lophanthus* rise above the tangled vegetation claiming recognition in this Nature's horticultural show. In smaller volume but hardly less interesting are the very many less self-assertive plants. Humble species, overshadowed by their more conspicuous companions, they fill every inch of intervening space and must be searched for by the careful observer.

In May the yellow violet (*Viola pubescens*), the adder's tongue (*Erythronium Americanum*) and the anemone (*Anemone quinquefolia*) are usually plentiful, although the school-children of the neighboring towns make serious incursions upon them.

In this month also the shadbrush whitens the borders of the grove while the *Geranium maculatum*, *Uvularia perfoliata*, *U. sessilifolia*, *Ranunculus abortivus*, *R. Allegheniensis*, *R. recurvatus* and the *Triosteum aurantiacum* are all abundant, extending their flowering time well into June.

The Lousewort (*Pedicularis Canadensis*) as it grows here in compact masses in drier parts of the wood is when in its prime an exceedingly attractive plant.

The white lace-like inflorescences of *Cryptotaenia*, *Osmorrhiza* and *Actaea* are always pleasing and the *Actaea* is even more showy in fruit with its racemes of cherry-red berries.

Two species of Snake-root grow abundantly, the *Sanicula Mary-*

landica and *S. gregaria*, flowering at about the same time, the former with greenish and the latter with yellowish flowers. Now that Mr. Bicknell has pointed out the differences between these two plants it is a constant wonder that they went unrecognized for so many years.

Around the borders abundance of the purple-flowered *Lythrum Hyssopifolia* grows and the slender-leaved blue iris (*Iris prismatica*) ; and amidst the salt-marsh grasses is found the *Potentilla Anserina*, its yellow flowers hardly more handsome than the silvery under surface of its leaves. In June *Cornus paniculata* and *Viburnum dentatum*, the most common flowering shrubs to be found, are conspicuous with their dense masses of white flowers, and a month or more later are hardly less so in fruit, the *Cornus* with clusters of pearly white berries on pink pedicels and the *Viburnum* in dark blue.

Many salt-marsh species are of course to be found, among which may be noted *Triglochin maritima*, *Plantago decipiens*, *Iva frutescens* and *Teucrium Canadense*.

In July the *Lilium Canadense* is sometimes very abundant, and *Lilium Philadelphicum* is also found. *Circaea lutetiana* and *Desmodium acuminatum* occur in great quantities and the noticeable grass *Asprella Hystrix* lifts its straw-colored racemes high above the surrounding vegetation. During August and September numerous plants of *Scrophularia Marylandica* most conspicuous in fruit attract attention, and tall plants of *Lophanthus scrophulariaefolius* tower above the herbage to a height of six and even eight feet, while its near relative *Monarda mollis*, a most attractive species, is occasionally met with. There is also a numerous colony of *Collinsonia Canadensis*.

With the advent of the Asters, Solidagos and Prenanthes, new elements of botanical interest are introduced.

The seaside golden-rod (*Solidago sempervirens*) forms lines of gold around the borders which are not wholly dulled until December ; and *Solidago asperula*, Desf., a species with an interesting history, and *S. arguta* are to be found here.

The handsome *Aster Novae-Angliae* forms dense clumps of purple on the marshy margins, and *Aster salicifolius*, an uncommon species in Eastern Massachusetts, grows in a restricted colony in damp shade and is one of the latest plants to flower, October first being its date of appearance in blossom.

Two species of *Prenanthes*, *trifoliolata* and *alba*, are also conspicuous at this season and easily separated by the difference in the color of the pappus.

It would, however, exceed the limits of this article to call attention to all the wild flowers that bloom in this seaside garden, many of which are not to be found again within a radius of many miles.

In the year 1882 the late Herbert A. Young, then a resident of Revere, made a careful and very complete catalogue of the plants of Oak Island which was published in the Bulletin of the Essex Institute, 1883, and to that publication the writer is indebted for much of the information herewith presented. Mr. Young's list enumerates 336 species of flowering and fern-plants and 28 species of mosses. In the twenty years which have elapsed since that publication some changes must necessarily have taken place in the flora of the Island and it is gratifying to note at this date that but few plants have disappeared from the record, and these missing species are more than offset by the numerous accessions to the flora that have come in during recent years.

Dr. Jacob Bigelow in the *Florula Bostoniensis*, 1824 and 1840, noted thirteen species from Oak Island or as it was then often called, "Chelsea Beach Island."

In 1882 Mr. Young stated that all of these with the exception of *Phryma Leptostachya*, L. had been collected that season, although he omitted from his own list *Desmodium cuspidatum*, Torr., which had been noted from the Island by Bigelow (as *Hedysarum cuspidatum*). In 1901 all of these thirteen species were still in existence with the same exceptions.

The following is a list of additions to Young's Catalogue that have been collected by the writer and others since the date of that publication (1883). Many of them, as will be observed, are segregations made by botanists since that date and some are plants of a migratory character that appear for a few years and then are gone.

Panicum macrocarpon, Le Conte.

" *boreale*, Nash.

" *unciphyllum*, Trin.

" *lanuginosum*, Ell.

Dactylis glomerata, L. Now very abundant throughout the island.

Agrostis intermedia, Scribner. (*Agrostis perennans*, Tuck., of Young's List).

Bromus secalinus, L. Near stable. July 29, 1900.

Carex mirabilis, Dewey, var. *perlonga*, Fernald.

Betula papyrifera, Marshall. A single tree with yellow-brown bark

in extreme southeastern part. Mr. M. L. Fernald says of this tree that it is a form of the species which is common on Vancouver Island and adjacent coasts.

Sisyrinchium angustifolium, Mill. (*S. Bermudiana* of the List).

Polygonum aviculare, L., var. *littorale*, Koch. Occasional around southern border and in low grass-land.

Polygonum prolificum, Robinson (*P. maritimum* of the list). Very abundant around the borders.

Solanum Dulcamara, L. Several plants in eastern part.

Sanicula gregaria, Bicknell. Very abundant in western part.

Myosotis arvensis Hoffm. Numerous plants in extreme eastern part.

June 10, 1899.

Lycopus Virginicus, L. In eastern part. Sept. 11, 1898.

Monarda mollis L. (*Monarda fistulosa* of the list).

Leonurus Cardiaca L. A colony of this species appeared, 1891, in the western part.

Rubus nigrobaccus, Bailey.

“ *argutus*, Link.

“ sp.? Not yet satisfactorily identified. Abundant on the western border.

Pyrus arbutifolia, L. f., var. *melanocarpa*, Hook. (*P. arbutifolia*, var. *erythrocarpa* of Young's List). A rather puzzling plant with pubescent leaves during early part of the season, but the black globular fruit that of *melanocarpa*.

Agrimonia gryposepala, Wallr. Frequent in the western part.

“ *striata*, Michx. Occasional in the western part.

Galium Mollugo, L. First collected by H. A. Purdie 1896, in extreme northeastern part. The specimens are immature and may prove, as suggested by Dr. J. M. Greenman, to be *Galium erectum*, Hudson, another European species.

Nyssa sylvatica, Marsh. A few young plants three or four feet high were seen Aug. 30, 1896. As this species grows abundantly across the marsh on the Saugus side, directly opposite Oak Island, it is probable that berries brought by birds caused its appearance here. Not seen recently.

Potentilla Canadensis, L. Eastern part. May 23, 1900.

Amphicarpa Pitcheri, T. & G. See RHODORA, Vol. 1, p. 27.

Helianthemum majus, B. S. P. Open ground, eastern part. June 28, 1896.

Barbarea vulgaris, R. Br. Western part. Observed May 21, 1895, and May 22, 1899.

Cardamine Pennsylvanica, Muhl. (*C. hirsuta*, var. *sylvatica* of the list).

Brassica campestris, L. Western part. July 14, 1901.

" *juncea*, Coss. Western part. July 14, 1901.

" *Sinapistrum*, Boiss. Western part. July 14, 1901.

Ranunculus Allegheniensis, Britton. Abundant in the western part.

" *repens*, L. Damp ground in the eastern part.

Lysimachia producta, Fernald. Eastern part. See RHODORA, Vol. 1, p. 133.

Cuscuta Gronovii, Willd. Abundant on *Aster Novi-Belgii* in extreme southeastern part. Aug. 13, 1899.

Triosteum aurantiacum, Bicknell, (*T. perfoliatum* of the List).

Vitis aestivalis, Michx. A few young plants in middle of the western part. July 1, 1900.

Ilex verticillata, Gray, var. *tenuifolia*, Watson. See RHODORA, Vol. 2, p. 105.

Atriplex patulum, L. Abundant on southern border in western part.

Antennaria plantaginica, R. Br., var. *petiolata*, Fernald. Eastern part. June 10, 1899.

" *neodioica*, Greene. Eastern part. June 10, 1899.

" *Canadensis*, Greene. Eastern part. May 23, 1900.

Taraxacum erythrospermum, Andrz. Southeastern part. May 23, 1900.

Cnicus lanceolatus, Hoffm. Frequently seen in recent years in the western part.

Lactuca Scariola, L., var. *integrata*, Gren. & Godr. Abundant since 1900 around the southern edges.

Tanacetum vulgare, L. Eastern part. July 29, 1900.

Sonchus asper, Vill. Eastern part, near stable. July 29, 1900.

Prenanthes trifoliolata, Fernald. Abundant in western part.

Solidago Canadensis, L., var. *procera*, Gray. Western part around borders. Sept. 16, 1899.

Solidago asperula, Desf. This is the plant referred to in Young's List as "*Solidago* sp.?" Perhaps a cross between *S. semper-virens* and *S. altissima*." For a full discussion of this interesting golden-rod see RHODORA, Vol. 2, p. 57.

Lapsana communis, L. Appeared about 1894 in eastern part near

the entrance and flourished for several years. Now nearly obliterated.

Of the foregoing 54 species and varieties 40 are additions to Young's List. The remaining 14 representing changes and segregations made since that date.

There have also been some subtractions from the flora of the island, the following plants and perhaps a few others not having been seen by the writer in recent years.

Orchis spectabilis, L. Probably exterminated by visitors digging up the plants for transplanting into gardens.

Cnicus horridulus, Pursh. (*Cirsium horridulum* L.). As this species grows abundantly but a short distance away on the Saugus marshes its reappearance on the Oak Island borders may be confidently predicted.

Gentiana Andrewsii, Griseb. Not found since.

Arabis perfoliata, Lam. Not found since.

Phragmites communis, Trin. Young notes "three specimens in the northwestern part." Here is an instance of extermination from natural causes. It is a well-established fact that the coast of New England has undergone a gradual subsidence at the rate of about eighteen inches in a century. On the Nahant shore opposite Oak Island stumps of forest trees can still be seen just below the low-water line and on the Revere Beach shore the writer is informed by Mr. John H. Sears, the eminent geologist of Essex County, that masses of the roots of *Phragmites*, cat-tail flag, cow lily, as well as the remains of numerous forest trees, such as beech, white pine, oak, spruce, hemlock and hop-hornbeam have been found imbedded under the waters of the bay. No other locality for the *Phragmites* is known within a dozen miles and it is evident that the specimens seen at Oak Island by Mr. Young in 1882 were the last remnants of this giant grass that in former times waved its great plumes in solid phalanx in this vicinity.

Epiphegus Virginiana, Bart. The disappearance of this plant may be attributed to the same cause.

Some species noted in the List as scarce or seen only in a few specimens have greatly increased since that time. Among such are *Leersia Virginica*, Willd., *Verbena hastata*, L., *Pedicularis Canadensis*,

L., *Scrophularia Marylandica*, L., *Lophanthus scrophulariaefolius*, Benth., *Iva frutescens* L., and *Aster salicifolius*.

Their abundance or scarcity, however, depends greatly upon the season as does the vegetation of the whole Island, a dry summer shrinking it to a noticeable degree, while in a moist season it thrives with the greatest luxuriance.

It will thus be seen that the flora of the Island has not diminished in number of species in the interval of twenty years and that the fears expressed by Mr. Young regarding its future have happily to this date been unfulfilled; but the same predictions he made may be safely renewed to-day; the same danger and additional ones hang over it, threatening the "fate of one of the most interesting botanical stations in this part of the country."

The island grove is a great resort for haymakers, hoboes and Hibernians. Haymakers on the marshes stack up great mounds of hay along the borders and take their noon-day rest in its shade. Tramps on their travels between Lynn and Boston make it a rendezvous and several times has the writer in the gloom of a summer evening come upon them as they were preparing a resting place for the night; and Hibernians—well, if one would see the Island in its full glory it should be visited on the occasion of one of their annual excursions.

Fortunately the picnic grounds being in the eastern part, the damage done on these festive occasions has not as yet proved a very serious injury.

SOME CASES OF POISONING BY CYPRIPEDIUM SPECTABILE IN VERMONT.

ALICE E. BACON.

SOME months ago Mr. W. W. Eggleston of Rutland narrated an experience indicating that our beautiful pink and white lady's slipper is poisonous, at least to some people. In the summer of 1889 he collected an armful of this plant from a swamp near Rutland and had the flowers near his face a great deal to inhale their fragrance. About a week afterward his forehead and the inner sides of his

wrists began to break out. The second day his entire face was badly swollen and on the fourth the swelling was so extreme that he was unable to see and later his features were so distorted as to be scarcely recognizable. The attack lasted more than two weeks.

About a month after his recovery Mr. Eggleston, not suspecting the cause of the poisoning, went to the same swamp and again collected plants of the lady's slipper. Another attack ensued, similar to the first but less severe. He did not attribute the trouble to the *Cypripedium*, however, until it was suggested by Professor Jesup of Dartmouth College. The swamp was full of poison ivy, but Mr. Eggleston has always been able to handle that with impunity.

A second case of *Cypripedium* poisoning has been reported by President Ezra Brainerd of Middlebury College. He states that on one occasion after he had gathered the plant, his sister, who accompanied him and handled the specimens, showed symptoms of serious poisoning, which he attributed to *Rhus venenata*, although the *Cypripedium* was gathered at a higher altitude than the usual habitat of the poison sumach, and a careful search afterward failed to reveal any of the latter in that locality.

On another occasion a year or two later a large quantity of the lady's slipper was gathered and tied with a handkerchief. The day being warm, the collector used the handkerchief to remove the perspiration from her face. There ensued a most serious case of poisoning affecting the face and eyes as in Mr. Eggleston's case, and lasting about the same length of time.

The narration of Mr. Eggleston's experience recalled to the writer of this note that each year after gathering this lady's slipper, which grows in abundance about Bradford, she had also been severely poisoned, but had attributed the trouble to *Rhus Toxicodendron* or *R. venenata*, both of which have proved exceedingly unpleasant subjects in her case even when they have not been directly handled but have been simply growing among other plants, imparting their poison to them and from them to her.

As the symptoms of the *Cypripedium* poisoning had not been noted accurately enough for description, one of Mother Eve's direct descendants determined to investigate and gratify her curiosity. The experiment was made in October when the poison was probably not so virulent as when the plant was in full vigor. A stalk was gathered from a clump of *C. spectabile*, which had been under cultiva-

tion and perfectly isolated from any possibility of contact with poison ivy or any other noxious plant. Sufficient exercise was taken to open the pores of the skin. Leaves and stalk were then freely rubbed on the back of the right hand and all around the wrist and fore arm. The effects were as follows :

First day — slight reddening and itching of the parts inoculated.

Second day — swelling in blotches ; these quite red ; burning sensation in the blotches ; no fever perceptible.

Third day — general symptoms of poisoning manifesting themselves, continuing to increase to the sixth day ; right hand and arm swollen ; blotches dark red ; great burning and itching ; temperature 100.3° at the highest ; pulse 98 ; headache across the temples ; blotches also on the left arm and hand, across the chest, under the arms, and one on the face — all points where the poisoning had appeared in June.

None of these last mentioned blotches were so red or became so troublesome as the spots directly inoculated. Vesication ensued in some of the blotches, followed the ninth day by desquamation. Application of *Hamamelis virginiana* relieved the burning, but as symptoms rather than alleviatives were in question remedies were used sparingly. The tenth day the trouble had disappeared except for a slight redness and the last few white scales.

Further tests will be made next June when the plant is in flower, as it seems probable that that is the time when the poison is most potent. Attempts will also be made to study a remedy.

It is with regret that one of our most beautiful wild flowers must thus be branded with such a vicious reputation ; but the conclusion seems irresistible that there is a poisonous property about it which is exceedingly irritating to some skins, although many people are able to handle the plant with perfect safety.

BRADFORD, VERMONT.

Since writing the above I have learned from the Gray Herbarium that the poisonous properties of *Cypripedium spectabile* have been discussed in print by the following writers :

Prof. H. H. Babcock in *The Pharmacist*, January, 1875. (Both *C. pubescens* and *C. spectabile* regarded as poisonous.)

G[eorge] T[hurber], *Bull. Torr. Bot. Club*, vi. 11. (A review of the preceding.)

Dr. R. E. Kunze, *Rhus* versus *Cypripedium*, Bull. Torr. Bot. Club, vi. 22. (Poisonous qualities of our *Cypripediums* denied.)

Botanical Gazette, xii, 275. (Editorial mention.)

Prof. H. G. Jesup, Bot. Gaz. xviii. 142. (Instances of poisoning by *C. spectabile* recorded briefly.)

Dr. D. T. MacDougal, Minnesota Botanical Studies, i. 32–36. (Records a conclusive experiment showing poisonous qualities of *C. spectabile*.)

V. K. Chesnut, Principal Poisonous Plants, Bull. 20, U. S. Dept. Agric., Div. Bot. 1898, pp. 19, 20. (Compiled from the preceding and without new data.)

As widely divergent opinions have been expressed in these papers and as the poisonous qualities of *C. spectabile*, although rightly suspected by Professors Babcock and Jesup, and definitely demonstrated by Dr. MacDougal, are not widely known, there seems room for the independently prepared notes presented above.—A. E. B.

THE DISCOVERY OF COMANDRA LIVIDA AND LYCOPodium SITCHENSE ON MT. WASHINGTON.

W. W. EGGLESTON.

SINCE Mt. Washington has been so thoroughly explored by a multitude of good botanists, it gives one a glow of pleasure to find a new alpine species there. This was particularly so to me, for but a short time before I had been told by one of the old enthusiasts in the botany of the region that there was no chance of new discoveries there.

In company with Mr. H. E. Sargent I made a delightful two days' trip about the mountain June 25 and 26, 1901. We had never visited the station for *Rubus Chamaemorus* at Mt. Clinton on account of its great distance from our usual base, the Glen; but on the morning of June 26th we started on our long 25 mile trip from the Half Way House on the carriage road over to Mt. Clinton and back by the carriage road to the Glen. On reaching Mt. Clinton, it proved very difficult to find flowering specimens of the *Rubus* so late in the season; and it was during a search for these that I found

what was much more interesting, a fine patch of *Comandra livida*, Rich., in full bloom. It is a rather shy and inconspicuous plant, so it is not strange that no one has found it here before. I have a vivid recollection of a number of careful searches for the species before I could find it at Mr. Pringle's station on Mt. Mansfield. The Mt. Washington station is, I believe, the fifth recorded for *Comandra livida* in New England. The first was at Mt. Mansfield, Vermont, the others on Mts. Katahdin, Abraham and Saddleback in Maine.

During the latter part of August, 1901, I returned to Mt. Washington for a ten days' stay, and while wandering about the Cone on the northwest edge of the "Alpine Garden" I found two small patches of *Lycopodium Sitchense*, Ruprecht. In New England this Alaskan species was first found on Mt. Katahdin by Mr. F. P. Briggs, but it has since been found in northern Maine (see RHODORA, iii. 156, 169, and 278).

The next day I found my first *Sibbaldia*, a fine ending to my now complete list of Mt. Washington alpine species. I cannot help feeling that there are still some chances for further discoveries on this our highest New England mountain. Some of the plants are of such a very local character that they may be easily overlooked even by those who pass near them. This was the case with *Sibbaldia* for years before it was rediscovered by Mr. Pringle, and may it not be so with *Dryas octopetala*, L., and perhaps with other species? Careful search in all the more inaccessible localities on the mountain may lead to interesting results. It is to be hoped that New England botanists will not abandon this search altogether for newer fields.

RUTLAND, VERMONT. .

SOME NOTEWORTHY PLANTS OF CONNECTICUT.

C. H. BISSELL.

Of the species listed below, one is new to New England, and several are new to Connecticut, the remainder being either rare or of unusual interest.

Lycopodium tristachyum, Pursh. (*L. complanatum*, L. var. *Chamaecyparissus*, Milde) Sandy woods, Southington. Also discovered by

Mr. L. Andrews and the writer at Enfield. At the Southington station it is found growing with the common Ground Pine but apparently quite distinct and showing no intergrading forms. The spores are matured much earlier than in the Ground Pine, the fruiting spikes being well developed in the latter part of June.

Avena striata Michx. Limestone ledges with cold northern exposure, Salisbury. This northern species is reported in Bishop's Catalogue to have been collected in Norwich, but Dr. C. B. Graves of New London who has given much study to the grasses of that section informs me he believes that report to be an error.

Carex littoralis, Schwein. Swampy upland woods, East Windsor. Not previously known from New England, the nearest reported station being on Long Island. Its occurrence at this station in the Connecticut valley, fifty miles from the coast, would suggest that it might be a survival from the time when a part of the Connecticut valley was at a lower level and covered by the sea.

Juncus Canadensis, J. Gay, var. *subcaudatus*, Englm. Wet thickets, Southington; bank of Whalebone Creek, Lyme.

Juncus tenuis, Willd. var. *Williamsii*, Fernald. Wet ground border of lake, Salisbury.

Salix longifolia, Muhl. Bank of the Connecticut River, Glastonbury. A common species by the river further north but so far as known not before reported from Connecticut.

Phaseolus perennis, Walt. Since the publication of my note on this species in RHODORA 4: 13 January, 1902, Mr. George P. Ells of Norwalk, Connecticut, has written me that the plant was collected there by Miss Mary D. Lockwood in 1898, and that he has since seen it from another station in the vicinity. Mr. Ells noted this collection in the Correspondence Bulletin of the Gray Mem. Bot. Chapter for May, 1901.

This note unfortunately did not come to my notice and the Correspondence Bulletins have never been published.

Callitriche Austini, Englm. Discovered by Mr. L. Andrews and the writer in moist woods in hard soil, along an old highway, Southington. Also collected by the writer in a similar habitat, Branford. An interesting article by Dr. E. H. Eames, about this rare species is found in RHODORA, April, 1901. Dr. Eames supposes the plant to be confined to the immediate vicinity of the coast, but the station at Southington is twenty-five miles inland.

Rhodendron canescens, Don. Low woods, Salisbury. By an unfortunate error Bishop's Catalogue gives *R. canescens* as "common" and omits *R. nudiflorum*, Torr. entirely. The common plant of Connecticut is not *R. canescens*, Don, but *R. nudiflorum*, Torr.; see discussion of the relations of these two species by Mr. Walter Deane, "Notes on the Ericaceae of New England," RHODORA, July, 1901. The specimens from this station at Salisbury are the only ones of typical *R. canescens* that Mr. Deane has been able, thus far, to see from Connecticut.

Mentha Cardiaca, Gerarde. Wet ground, in sandy soil, Southington.

Aster tardiflorus, L. Border of lake in moist ground, Salisbury. The only previous report of this species from the state is founded on a doubtful specimen from East Hartford, now in the Gray Herbarium.

Heliopsis laevis, Pers. Discovered by Mr. L. Andrews and the writer in open woods, in sandy soil, Southington.

Bidens vulgata, Greene. Wet places in rocky ground, Salisbury.

Specimens showing all the species listed above, have been deposited in the Gray Herbarium of Harvard University.

SOUTHINGTON, CONNECTICUT.

NOTES ON LYCOPODIUM CLAVATUM AND ITS VARIETY MONOSTACHYON.

ROLAND M. HARPER.

DR. ROBINSON'S note on *Lycopodium clavatum*, var. *monostachyon*, in RHODORA (3: 237, 238) last September recalled to me some specimens which I collected in a damp pasture on the northern slope of Little Wachusett Mountain, Princeton, Mass., on Sept. 9, 1898; and when I came across them in my herbarium recently I saw at once that they agreed with his description in every particular. Mr. Leavitt's observations on the same plant in the March number (4: 57) have added still further to my interest in the subject.

The typical form was also collected, at the same time and place as the var. *monostachyon*, but as it was then after sunset I did not

have a chance to observe the relative abundance of the two forms. In my specimens the spikes of the variety were more mature than those of the species, showing that there is some difference between them in the time of fruiting. Or possibly the two-spiked peduncles were a late growth like that mentioned by Dr. Robinson in his note above cited, but as far as I was able to observe they were always on different plants.

Little Wachusett seems to be the southernmost station at which this variety has been collected. The altitude of the point at which my specimens were secured is about 1300 feet.

The original description of *Lycopodium clavatum*, var. *monostachyon* Greville and Hooker (Bot. Misc. 2: 375, 376; 1831) contains the following remarks:

"The whole plant is more compact, the leaves less dentato-ciliate, and less closely imbricated: the spikes solitary in all the specimens, and supported on a peduncle scarcely more than an inch in length."

This does not exactly describe the New England plant, but as the original specimens came from the Rocky Mountains, in latitude 56°, they were probably dwarfed by the arctic-alpine conditions. There is another note on this plant in the next volume of the same magazine (p. 105.)

A specimen in the herbarium of the New York Botanical Garden, collected by R. S. Williams near Lindeman, Yukon Territory, May 4, 1898, corresponds fairly well with the original description. There are no other specimens referable to var. *monostachyon* in this herbarium or that of Columbia University, but in the U. S. National Herbarium I find the following which I would refer here:

Mingan, Southern Labrador, Wm. Palmer, Aug. 17, 1887 (two sheets).

Benjamin Hill, Winchendon, Mass., C. L. Pollard, Sept. 3, 1895. Saskatchewan River, Kennicott (no date).

Lake Superior (without further data).

The last two specimens are mounted on the same sheet, and both, especially the latter, have rather short peduncles.

Pursh seems to have been acquainted with our plant, but he assigns no definite locality to it. In his description of *L. clavatum* (Fl. Am. Sept. 652. 1814) he says: "It sometimes has only one spike."

While on the subject of *Lycopodium clavatum* it might be of interest to note that while this species is not rare in dry woods in South-

bridge and other towns in the southern part of Worcester County, Massachusetts, where I have observed it every month in the year and in three or four different years, I have found it always sterile in that vicinity. I have seen no record or explanation of this peculiarity anywhere, and it would be interesting to know how far this has been the experience of other collectors. The absence of fructification seems to cause a greater vegetative growth. In the fall of 1897 I collected in Southbridge a specimen which was fully twelve feet long; and this fact was made use of by Lloyd and Underwood in their review of the genus in North America (Bull. Torr. Club, 27: 159. April, 1900) in giving the dimensions of *L. clavatum*.

One prominent feature of these sterile specimens is that they totally lack the characteristic articulated appearance mentioned by Mr. Leavitt in his recent paper, a fact for which I can suggest no explanation at present.

WASHINGTON, D. C.

UTRICULARIA MINOR IN VINNICUNNET, MASSACHUSETTS. — In an interesting article in RHODORA, vol. 4, p. 42, from the pen of Alice G. Clark I find the inquiry whether anyone else has collected *Utricularia minor* recently, and if so under what conditions.

Utricularia minor, L. was found in July, 1894, by Mr. Oakes Ames near the shore of Lake Vinnicunnet. The following year I collected at the same locality not only this species but also *U. vulgaris*, L., *U. inflata*, Walt., *U. purpurea*, Walt., and *U. cornuta*, Michx., and entered them at the exhibition of wild flowers held by the Massachusetts Horticultural Society early in July at Horticultural Hall in Boston. Almost yearly since then the place has been visited and *U. minor* was growing there still in July, 1901, although not abundantly. It grows in shallow water in a somewhat boggy, muddy soil mixed with sand. Some years the water of the lake has been very high, but this has not seemed to have any hurtful influence upon the plants. Last year I found another station not far from the first one where a little hillock of decayed pond-weeds, particularly of the Giant Bulrush, *Scirpus lacustris*, L., was carpeted with this small threadlike decumbent *Utricularia*. Among the species of *Utricularia*, *U. minor* is the earliest flowering. I have found it in bloom in

Europe (Sweden) early in June, but cannot say when it begins to flower at the Vinnicunnet stations, which I have not visited before July.

Lake Vinnicunnet is situated near the town of Norton, Massachusetts, $7\frac{1}{2}$ miles from North Easton along the Bay Road and $5\frac{1}{2}$ miles northward from the city of Taunton. The eastern shore is bordered by a broad belt of boggy soil supporting a luxuriant vegetation including most of our commonest bog-plants. Besides the above mentioned species of *Utricularia*, there are also *Eriocaulon septangulare*, Withg., *Hypericum ellipticum*, Hook., *Nymphaea odorata*, var. *minor*, Sims, *Sabbatia chloroides*, Pursh, and others. Higher on the gravelly shore grow *Stachys palustris*, L. and *Hydrocotyle umbellata*, L. Other stations for *Utricularia minor* may well be found here, but owing to the depth of the bog, the obstacles to search are almost insurmountable. — CARL BLOMBERG, North Easton, Massachusetts.

GLEDITSCHIA TRIACANTHOS ESTABLISHED IN CONNECTICUT.—As the question of the naturalization of *Gleditschia triacanthos*, L., the Honey Locust, in New England, appears to be a matter of some controversy, perhaps a few notes taken on its spread in this vicinity may be of interest. A few weeks ago I visited a section where trees of this species appear to be most numerous. From a row of eight or ten individuals planted by the roadside they have spread across the hills for about a mile. I counted 110 in all. To a certain extent they appear in what one might call colonies of from ten to thirty trees; in other places they are scattered, standing singly. A great many of the trees had been cut down but the stumps remained and were measured. They varied from two to twelve inches in diameter; some were even larger, one having reached a diameter of eighteen inches. The species is very persistent, for when the trees are cut down a dozen or more sprouts spring up about the stump. In the region where they grow steep hills of gravel are interspersed with valleys of sandy loam and the trees stand mostly in the valleys.

Now the question naturally arose, how did these trees with their long heavy pods that can at best be blown only a few rods from the parent tree get to such a distance. This question I asked of the owner of the land and he immediately explained that cows ate the pods with relish, in fact appeared rather fond of them. If this state-

ment is correct it easily accounts for the widespread distribution of the species in this vicinity.— LUMAN ANDREWS, Southington, Connecticut.

BIOLOGICAL RELATION OF *Polygonum Hartwrightii* TO *P. amphibium*. — *Polygonum Hartwrightii*, Gray, and *P. amphibium*, L., ordinarily seem quite distinct. *P. amphibium* is generally found in water and has thick shining leaves on long petioles, mostly clustered at the end of the long floating stems. *P. Hartwrightii* is usually found on muddy borders of ponds or along ditches in wet meadows, has longer and narrower leaves that are nearly sessile and more or less hairy, the stems are erect, very leafy, and the sheaths have a peculiar foliaceous spreading border. It is to be noted however that Dr. Gray in describing *P. Hartwrightii*, states that it is very closely related to *P. amphibium*, the flowers and fruit being the same, the only difference being in the habit and foliage. *P. Hartwrightii* is notoriously sterile, it being a rare thing to find it in fruit in this region.

Attention was called to these plants in consequence of the finding of what appeared to be *P. Hartwrightii* where before only *P. amphibium* had been seen. The writer had supposed the two forms to be distinct and every endeavor was made to prove that to be the case, but without avail. *Polygonum amphibium* is common in Shuttle Meadow Lake, in Southington. This lake furnishes the water supply for the city of New Britain, and most of these observations were made at this station, though the same facts were noted at another place.

During the long dry summer of 1900, the water in the lake was drawn down to much below its ordinary level, and its sloping banks gave an unusual opportunity to study the plants under varying conditions. The facts as found after several visits and much tracing out of stems and root systems were as follows:

As the water receded the floating stems of *P. amphibium* were left stranded on the banks. They would retain life for a time, often taking root at the tip and sometimes at the joints, but generally would at last die and wither away from exposure to the dry air. Then from the same root or from the lower joints of the old stems would spring new erect stems having the foliage of *P. Hartwrightii*. Different forms of leaf would occur showing all variations of intergrading forms.

In some cases it was possible to secure specimens that still retained some of the old formerly floating leaves at the tip of the long stems, yet had erect stems from the same root, bearing the hairy leaves and foliaceous sheaths of *P. Hartwrightii*.

In early October when the water was at its lowest point, the plants farthest up the bank had lost nearly all trace of the *amphibium* form, while lower down all stages of transformation could be seen between that and the plants still floating in the water, true *amphibium*.

The fact that in this case the same root that produced typical *P. amphibium* when under water, produced typical *P. Hartwrightii* when left exposed for a time above water, would seem to prove that *P. Hartwrightii* is not a distinct species but a terrestrial form of *P. amphibium*. It is nothing unusual that this should be the case, as many other species are known to take different forms under such conditions. *Ranunculus multifidus* and its var. *terrestris*, and *Myriophyllum ambiguum* and its var. *limosum*, are illustrations of such variations.

From the scarcity of flowers and fruit in the terrestrial plants of this Polygonum, it would be inferred that the species was in its normal habitat when growing in water. Although *P. Hartwrightii* in the locality where I have observed the transitions above described, is obviously only a biological state of *P. amphibium*, this state appears to become in other places the habitual form, so that it requires some taxonomic recognition. It cannot be regarded as a distinct species, and it may be best to call it *P. amphibium*, var. **Hartwrightii** as it appears closely analogous to the varieties of *Ranunculus* and *Myriophyllum*, mentioned above. — C. H. BISSELL, Southington, Connecticut.

SALERATUS AS A PROTECTION AGAINST RHUS-POISONING.—In the matter of Ivy-poisoning, discussed by Franz Pfaff, M. D., in the March RHODORA, I have had a little experience which may be of interest to those readers who have been kept from exploring rich floral fields through fear of *Rhus venenata*, the poison Dogwood. Not far from my home, on the boundary between Southbridge and Charlton, Massachusetts, there is a large sphagnous tract, known as Cedar Swamp. A good-sized pond lies concealed in it, and where the road crosses the swamp one can from the roadside run a pole down many feet without reaching bottom; yet the tangle of roots is so thick that by exercising a little care it is possible to walk upon

the surface and reach all parts of the swamp. The vegetation is very rich and includes among many other plants the following attractive and interesting species: *Saracenia purpurea* L., *Kalmia glauca* Ait., *Vaccinium Oxycoccus* L., *Azalea viscosa* L., *Cypripedium acaule* Ait., (I have been told that the white Lady's Slipper grows there, but have not found it yet), *Calla palustris* L., *Trillium erythrocarpum* Michx., *Larix Americana* Michx., *Chamaecyparis sphaeroidea* Spach, *Menyanthes trifoliata* Town., *Peltandra Virginica* Raf., *Clintonia borealis* Raf., and occasionally *Habenaria fimbriata* R. Br. Indeed, I find some plant new to me every time I go through Cedar Swamp.

Being very susceptible to Ivy and Dogwood poison I was long deterred from exploring this rich collecting ground, but I can now ramble over it with perfect impunity. I take with me a bottle filled with a strong solution of saleratus (the common kind used in cooking). When I come out of the swamp I wash my hands, face, and neck — wherever it is possible that the poison has touched the skin — with the solution. Since doing so I have never been poisoned and can roam through the place at will. I take no needless risks and am always careful not to touch the Dogwood if I see it. However, it is so thick that it would be impossible to avoid it altogether.— L. E. AMMIDOWN, Southbridge, Massachusetts.

RARE PLANTS ABOUT NEW BEDFORD.—In addition to some rare plants previously mentioned in RHODORA by the writer, the following unusual in this vicinity may be worthy of notice. *Cuphea viscosissima*, Jacq. was found last fall in Dartmouth (but a few miles from New Bedford) in a field near the seashore. A considerable number of specimens were obtained. The range of this plant is given as Rhode Island, and west and south. The above extends it into south eastern Massachusetts. It would be interesting to know if it has been found elsewhere in the State. *Scabiosa australis*, Wulf. was found here three or four seasons ago, and on revisiting the location last summer I obtained several more specimens; the capitate head of flowers on a long peduncle, resembles somewhat *Mentha aquatica*.

A fine patch of *Symphoricarpos vulgaris*, Michx. was found about seven miles from the city by the roadside; it did not appear to be an escape from cultivation as it was half a mile from a dwelling on one side, and more than a mile from one on the other side.

Matricaria discoidea, DC. I have recently found in several places in the city, growing on sidewalks made by filling in sand or gravel. *Lysimachia vulgaris*, L. not to be found here formerly, has suddenly appeared and been seen in widely different localities. The bright and attractive little *Sabbatia stellaris*, Salisb. was found in a marsh by the sea for the first time last summer; the larger species *S. chloroides* has always been common here.—E. WILLIAMS HERVEY, New Bedford, Massachusetts.

[*Scabiosa australis* occurs in abundance at Raynham, Massachusetts.—Ed.]

VERONICA CHAMAEDRYS IN NEW ENGLAND. — *Veronica Chamaedrys*, L., an attractive European species of speedwell has long been recognized as a rather local introduction in our Middle States. Its range in the sixth edition of Gray's Manual does not include New England and while the range given by Professor Britton in his recently published Manual is extended eastward to Nova Scotia, the species is still so local and so little known in New England that it seems worth while to record the following stations which have been recently brought to the attention of the staff of the Gray Herbarium.

In June, 1895, Mr. Walter Deane showed me a small patch of this *Veronica* in the shade of trees at the edge of a large inclosed tract of grass land between Cambridge and Watertown, Massachusetts. There was no evidence that its presence there was the result of cultivation, either present or past, and it was scattered in a firm turf of grasses and clover quite in the manner in which several of the other and more frequent species of *Veronica* occur.

A little later Mr. Edward B. Chamberlain sent to Mr. Fernald specimens of *V. Chamaedrys* collected in damp soil at New Castle, Maine. This station was recorded in the Second Supplement to the Portland Catalogue of Maine plants.

In the summer of 1901 Mr. W. H. Blanchard found this species closely covering several rods of an old mowing on the slope of Glebe Mountain, at Windham, Vermont, which is its first recorded station in that state.

Last summer the plant was also reported by Mrs. H. A. Penniman as occurring at South Braintree, Massachusetts. Concerning it she writes as follows: "The plant was found by a small boy in South Braintree, May 30, 1901, in deep grass a little removed from

an old vegetable garden. This garden is elevated above a factory pond and separated from it by Viburnums, Clethra, elders, and other growths usually found in such places. Visiting the spot later with the boy I found about fifteen individuals of the Veronica, although I have no doubt there were many more in the neighborhood."

I am informed also that *V. Chamaedrys* has been found by Dr. C. B. Graves at New London, Connecticut, where it is established on a lawn. This station was recorded by Mr. J. N. Bishop in his recent catalogue of Connecticut plants.

It will thus be seen that this species has now made its appearance in four of our New England states.—B. L. ROBINSON.

THE STATURE ATTAINED BY *EUPHRASIA OAKESII*.—I have several times collected *Euphrasia Oakesii*, Wettst. at its well known station near Mt. Monroe, where as stated by Prof. Robinson in his recent revision of the North American species of *Euphrasia* (RHODORA, iii. 272) it grows only from 2 to 5 cm. high. I was, therefore, surprised while collecting *Rhinanthus Crista-galli*, L., about the brooks in Oakes Gulf to find in a moist gravelly pocket mammoth specimens of this usually dwarf *Euphrasia*, some of which were no less than 12 cm. high.—W. W. EGGLESTON, Rutland, Vermont.

THE CYCLOPEDIA OF AMERICAN HORTICULTURE.—With the fourth volume of the *Cyclopedia of American Horticulture* issued on February 26, 1902, Professor L. H. Bailey has brought to a close his great work. These volumes contain descriptions of all the species of plants known to occur in the trade in North America, north of Mexico and, while embracing, in the main, ornamental plants, allow a liberal interpretation of the word "horticulture," treating also of plants of agricultural and economic value. Professor Bailey has enlisted in his work a very large number of eminent specialists and it is gratifying to see so many names of our leading New England horticulturists, florists and landscape gardeners among the number. Often several persons have contributed to a single genus, its history, treatment in cultivation and the systematic arrangement of its species with critically prepared keys being all made the subjects

of most careful consideration. By the aid of these keys the reader can readily trace the plant he is studying to its proper species. The value of this aid to the student cannot be overestimated.

The Cyclopedia is copiously illustrated by original pictures, in the main line drawings. These represent a great variety of subjects, but are chiefly those of plants which are drawn from living specimens wherever possible, thus carrying out the idea of making "a live record of the real status of our horticulture." These pictures are arranged so that one at least and generally several will be seen wherever a volume is opened. Common and trade names of plants are introduced and referred to their proper places where they are treated; the horticultural status of the various states in the Union is given, and there are many articles of great worth on subjects which have a bearing on the general plan, such as, seedage, railroad gardening, graftage, insects, etc. In addition there are sketches of those who have aided in advancing the progress of horticulture by their attainments and well-directed efforts. In the matter of nomenclature the system of Bentham and Hooker is with a few exceptions followed in generic names, as this makes fewer changes in the accepted horticultural terms, and, as trade names have their own value in the market, this is of the greatest importance.

A critical examination of the work reveals its great value; it is an inexhaustible fund of information. The keys are accurate and the characters that have been drawn in the case of the various genera and species are terse and to the point, and are relieved by valuable bits of information still further elucidating the plants in question. The illustrations are artistically as well as accurately drawn and leave nothing to be desired in that direction. The practical information as to the cultivation of the species is based upon Professor Bailey's wide experience and that of his skilled assistants who have contributed to these volumes.

A work of this character, so wide in its scope and general treatment and carried out with such infinite skill and patience marks an epoch in the history of the literature of American Horticulture. The only other work of the kind ever published in this country is Henderson's "Handbook of Plants" which appeared first in 1881 and in a single volume. It is earnestly to be desired that a yearly supplement partially promised by the Editor, will be forthcoming. The first will contain a key to the families and genera employed in the work.

Too much praise cannot be given to Professor Bailey and his able associate editor, Mr. Wilhelm Miller, for the painstaking and conscientious labor that has marked the progress of the Cyclopedia and can be seen as we peruse its pages. The editor may well say as he closes the last volume: "It was a sad parting. The pleasantest associations of a pleasant life had come to a finish."—WALTER DEANE.

The Committee of Arrangements of the JOSSELYN BOTANICAL SOCIETY OF MAINE announce that the Annual Meeting and Field Day of the Society for 1902, will be called at Machias, July 8 to 11, inclusive.

Announcement of the programme and transportation and hotel arrangements will be sent to members two weeks previous to the meeting.

All who wish further notices or to become members of the Society should address DORA H. MOULTON, Sec'ry, No. 9 Hill Street, Portland, Me.

Vol. 4, no. 40, including pages 65 to 86 and plate 35, was issued 4 April, 1902.

BANGOR AND AROOSTOOK RAILROAD.

get **CAREX PORTERI**, *C. saxatilis*, var. *miliaris*, and *C. Grahami* from the gravelly shores or low woods; and on Kineo he will look for *Draba incana*, var. *arabisans*, *Primula farinosa*, *Shepherdia canadensis*, *Carex capillaris*, and *Aspidium fragrans*.

In the Katahdin Iron Works region, too, the botanist will be very happy, but the great botanizing begins as he approaches southern Aroostook County. From the main line of the railroad beyond the Katahdin Iron Works district one has some splendid views of Mt. Katahdin itself with the neighboring masses of Sordnahunk and Traveller Mts. If one does not make up his mind at once to explore the giant amphitheatres and castellated ridges of Katahdin, he is no true lover of the best of botanical exploring and of inspiring mountain life. (For detailed account of Katahdin and its flora, as far as known, see RHODORA for June, 1901.)

At Crystal flag-station one should stop long enough to explore a bit of the great bog which furnishes the upper waters of Molunkus Stream. Following the railroad back half a mile he will find himself surrounded by masses of *Betula pumila*, *Lonicera oblongifolia*, and other northern shrubs, with an herbaceous flora including *Parnassia caroliniana*, **DRO-SERA LINEARIS**, *Valeriana sylvatica*, *Aster junceus*, *Pyrola rotundifolia*, var. *uliginosa*, *Tofieldia glutinosa*, *Carex chordorhiza* and *C. livida*.

If he wishes to stop for some time in the region (and who does not) he can have good accommodations at Island Falls; and there, near the Mattawamkeag River, he will get the local **ANTENNARIA RUPICOLA**, *Hieracium vulgatum*, *Erigeron acris*, and *Halenia deflexa*. In the river, itself, and in Mattawamkeag Lake he will revel in September, dragging up such prizes as *Myriophyllum Farwellii*, *M. alterniflorum*, and *Potamogeton obtusifolius*.

When Houlton is reached one should make up his mind to stop at some of the numerous villages between there and the Aroostook River, for the Cedar (*Arbor-vitae*) swamps of the Meduxnakeag and the Presque Isle valleys are the homes of *Cypripedium spectabile*, *Microstylis monophylla*, *Carex vaginata*, and scores of other species of absorbing interest.

The valleys of the Aroostook and the main St. John—for instance at Fort Fairfield, Van Buren, Fort Kent, and St. Francis—furnish one of the most striking floras of New England. There among other species one will get **THALICTRUM CONFINE** and **T. OCCIDENTALE**, **OXY-TROPIS CAMPESTRIS**, var. **JOHANNENSIS**, *Hedysarum boreale*, **TANACETUM HURONENSE**, **PRENANTHES RACEMOSA** and **P. MAINENSIS**, *Gentiana Amarella*, var. *acuta*, **PEDICULARIS FURBISHIAE**, **SALIX GLAUCOPHYLLA** and **S. ADENOPHYLLA**, **GOODYERA MENZIESII**, *Juncus alpinus*, var. *insignis* and **J. TENUIS**, var. **WILLIAMSII**, *Triglochin palustre*, *Scirpus Clintonii*, **CAREX CRAWEI** and **C. BICOLOR**, *Equisetum palustre* and *E. variegatum*, and *Lycopodium silchense*.

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